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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,206	03/23/2004	Takeshi Takahashi	119201	1908
25944	7590	10/11/2007		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER HODGE, ROBERT W	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 10/11/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/806,206

Applicant(s)

TAKAHASHI ET AL.

Examiner

Robert Hodge

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1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,9,10,15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,11-14,17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :4/20/04, 10/12/05, 4/20/07 6/14/07.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of zirconium as the surface element in the reply filed on 9/6/07 is acknowledged. The traversal is on the ground(s) that the generic claim is not so broad as to place an undue burden on the Examiner. This is not found persuasive because the species election was not made on the generic claim it was made on individual dependent claims drawn to separate species for the surface element, furthermore applicants have not provided any evidence showing that there would be no undue burden on the Examiner.

The requirement is still deemed proper and is therefore made FINAL.

The Examiner notes that because Zirconium is the elected surface element for purposes of searching the instant claims, the recitation to magnesium in the elected claims such as is recited in claim 5 is also withdrawn from consideration and only the elected species will be addressed in any subsequent office action including the instant office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 5-8, 11-14, 17 and 18 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for how an existence ratio

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according to the present invention is determined, does not reasonably provide enablement for how to provide a consistent existence ratio as is recited in the claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. Starting in paragraph [0110] of the instant specification the process of determining an existence ratio according to the present invention is described. However it is quite clear to the Examiner that said process is a relative process. Applicants are only measuring the amount of surface material present in areas that have the greatest material present and then averaging the amount such as 10 times for example. Applicants further state that areas that have a less than 4% existence ratio are completely ignored. If for example 10 measurements are taken and half of those measurements are less than 4% then only 5 of the measured areas will be used in the average and the overall "existence ratio" will be inflated and the numbers will not be consistent and said measurement is a relative measurement that will not be reproduced from finished product to finished product. Therefore because of the relativeness of the determination of an existence ratio according to the instant specification for purposes of examination as long as the prior art discloses that the surface element is uniformly mixed for purposes of applying to the surface of the lithium-transition metal composite oxide it will read on the claims as recited, especially since the intent of measuring the "existence ratio" is to determine how uniformly the surface element is distributed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, 5-8, 11-14, 17 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Pre-Grant Publication No. 2002/0127473 hereinafter Ooya.

Ooya teaches a nonaqueous electrolyte secondary battery comprising a positive electrode current collector having on at least one side a positive active material comprising a layer of a lithium-transition metal composite oxide such as lithium nickel cobaltate, a surface element that is at least zirconium that exists between the positive

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active material and a conductive agent, a separator located between the positive electrode and a negative electrode, said negative electrode comprising a current collector having a layer of at least a lithium metal, a lithium alloy, a carbon material capable of intercalating and deintercalating lithium ions or a compound capable of intercalating and deintercalating lithium ions and the electrodes and separator are layered against one another (see paragraphs [0017]-[0034], [0055]-[0059], [0062]-[0070] and [0084] and table 1). Ooya further teaches in paragraph [0084] a uniform mixture of the surface element that is then dried and adhered onto the surface of the lithium-transition metal composite and therefore as clarified above Ooya reads on the claims as recited.

In the alternative it would have been obvious to one having ordinary skill in the art to form the surface element on the lithium-transition metal composite oxide layer such that the "existence ratio" is greater than 20% (i.e. uniformly forming the surface element) in order to reduce the friction force among the active materials thereby increasing the flowability of the active material so that the positive electrode film has a higher density thus increasing the charge/discharge characteristics of the battery and also increasing the capacity of the battery. It further would have been obvious to optimize the "existence ratio" of Ooya since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art, in the absence of unexpected results. In re Boesch, 617 E.2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RWH


JONATHAN CREPEAU
PRIMARY EXAMINEE